

**WHAT IS CLAIMED IS:**

1. A method for operating a modular control system having a central processor equipped with at least one of central processor inputs and central processor outputs and having a plurality of peripheral modules connected to the central processor equipped with at least one of respective peripheral module inputs and respective peripheral module outputs, wherein, during an initialization phase of the modular control system, the method comprises:

the central processor entering, without any gaps, the at least one of the central processor inputs and central processor outputs into a process image;

the central processor transferring the process image to an adjacent one of the peripheral modules;

each of the peripheral modules entering, without any gaps, the at least one of the respective peripheral module inputs and the respective peripheral module outputs into the process image; and

each of the peripheral modules delivering the process image to a respective neighboring one of the peripheral modules.

2. The method as claimed in claim 1, wherein the central processor inputs and the respective peripheral module inputs are entered into an input-specific address list of the process image.

3. The method as claimed in claim 1, wherein the central processor outputs and the respective peripheral module outputs are entered into an output-specific address list of the process image.

4. A method, comprising:

without any gaps, sequentially entering at least one of input values and output values of a central processor and peripheral modules connected to the central processor into a representation of a process that is performed by the central processor and the peripheral modules;

wherein, in-between and in accordance with the sequential entering of the at least one of input values and output values:

(a) the representation of the process is transferred from the central processor to a first one of peripheral modules, which is arranged adjacent to the central processor;

(b) subsequently, the representation of the process is transferred from the first one of the peripheral modules to a second one of the peripheral modules, which is arranged adjacent to the first one of the peripheral modules; and

(c) subsequently, the representation of the process is transferred from the second one of the peripheral modules to a third one of the peripheral modules, which is arranged adjacent to the second one of the peripheral modules.

5. A modular control system, comprising:

a stored-program central processor, the central processor having a central processor transfer interface and at least one of central processor inputs and central processor outputs; and

a plurality of peripheral modules connected to the stored-program processor, each peripheral module having a respective peripheral module transfer interface and at least one of respective peripheral module inputs and respective peripheral module outputs;

wherein the central processor is configured to enter, without any gaps, the at least one of the central processor inputs and central processor outputs into the process image;

wherein the central processor transfer interface is configured to transfer the process image to an adjacent one of the peripheral modules;

wherein each of the peripheral modules is configured to enter, without any gaps, the at least one of the respective peripheral module inputs and respective peripheral module outputs into the process image; and

wherein the respective peripheral module transfer interface is configured to deliver the process image to a respective neighboring one of the peripheral modules.